IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
BURFIELD, et al.)	
Serial Number: to be Assigned)	Art Unit:
Filed: Concurrently) .)	Examiner:
For: OBJECT-BASED NUMERIC ANALYSIS ENGINE)	
		-

Assistant Commissioner for Patents Washington, D.C. 20231

ASSOCIATE POWER OF ATTORNEY

Sir:

I hereby appoint Mark Guttag, Registration Number 33,057, as my associate attorney in the above-captioned application, with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to receive the patent and to transact all business in the Patent Office connected therewith.

However, please continue to address all future communications to the undersigned attorney at the following:

Ajay A. Jagtiani
JAGTIANI & ASSOCIATES
Democracy Square Business Center
10379-B Democracy Lane
Fairfax, Virginia 22030

Respectfully submitted,

Kjay A. Jagtiani

Registration Number 35,205

JAGTIANI & ASSOCIATES
Democracy Square Business Center
10379-B Democracy Lane
Fairfax, Virginia 22030
(703) 591-2664

October 9, 1998

DECLARAT	TO R	PATENT APPLICA	TION AND APPOIN	TOTO	ATTORNEY DOCK	ET NO.: QEDI-0001-1
As a below-named inverse my name; I believe that I am the coplural names are listed below) of applicable) entitled: OBJECT-BAS	original, firs the subject	matter which is claimed	nly one name is listed in and for which a patent	below) or an is sought or	original, first the invention	and joint inventor (if
is attached hereto. was filed on applicable).	if applicabl d and under love. I ac the 37, Cod foreign app	as International A e). rstand the contents of the knowledge the duty to be of Federal Regulation lication(s) for patent or	No	_, and was cification, in which is m claim forei sted below	amended on, and accluding the cluderial to the gn priority beand have also	d was amended on aims, as amended by examination of this nefits under <i>Title 35</i> , identified below any
To eight application for patent of in	ventor's cer		APPLICATION(S)	pplication o	n which the pr	fority is claimed.
Number		COUNTRY	DAY/MONTH/YEA	R FILED	Priori	TY CLAIMED
					Yes	No No
					☐ Yes	No No
I hereby claim the benefit application(s) designating The Ur application is not disclosed in that/ § 112, I acknowledge the duty to occurred between the filing date of	ited States those prior disclose n	of America listed belo application(s) in the ma naterial information as	ow and, insofar as the anner provided by the f defined in <i>Title 37, C</i>	subject ma first paragrap ode of Fede	itter of each of the of Title 35, eral Regulation	f the claims of this United States Code, ns. § 1.56(a) which
APPLICATION NUMBER		FILING	DATE	Status	(Patented, Pendi	ng or Abandoned)
I hereby declare that all sta belief are believed to be true; and i made are punishable by fine, or im statements may jeopardize the valid	urther that orisonment,	these statements were n or both, under Section	nade with the knowled 1001 of Title 18 of the	ge that willf	ul false statem	ents and the like so
POWER OF ATTORNEY prosecute this application and trans Number 35,205.	: I (We) I	nereby appoint as my (ness in the Patent and Tr	our) attorneys, with fi rademark Office conne	all powers of cted therewi	of substitution th: Ajay A. Ja	and revocation, to

Send correspondence to:

JAGTIANI & ASSOCIATES 10379-B Democracy Lane Fairfax, Virginia 22030

Telephone calls to: Ajay A. Jagtiani (703) 591-2664

X See following pages for additional joint inventors.

Full Name of First or Sole Inventor BURFIELD, Evan G.	Citizenship United States
Residence Address - Street 9852 Fairfax Square #225	Post Office Address Street QED Innovations, 4013 Williamsburg Court
City Fairfax	City Fairfax
State or Country Zip Virginia 22031	State or Country Zip Viriginia 22032
DATE 10/13/98	SIGNATURE & BAQ

DECLARATION R PATENT APPLICATION AND APPOINTMENT OF ATTORNEY Page 2

Full Name of Additional Joint Inve	entor	Citizenship United States
Residence Address - Street 804 Lawton Street		Post Office Address Street QED Innovations, 4013 Williamsburg Court
City McLean		City Fairfax
State or Country Virginia	Zip 22101	State or Country Virginia Zip 22032
DATE 10/13/98		SIGNATURE 9

Full Name of Additional Joint Inventor DRISSEL, Mark		Citizenship United States		
Residence Address - Street 6314 Kiteline Court		Post Office Address Street QED Innovations, 4013 V	Williamsburg Court	
City Columbia		City Fairfax		
State or Country Zip Maryland 21044		State or Country Zip Virginia 22032		
DATE 10/13/98		ELONGTYRE Disse)	

Full Name of Additional Joint Inventor EICHLER, Matthew		Citizenship United States		
Residence Address - Street 2629 Washington Blvd.		Post Office Address Street QED Innovations, 4013 W	Post Office Address Street QED Innovations, 4013 Williamsburg Court	
City Arlington		City Fairfax		
State or Country Virginia	Zip 22201	State or Country Virginia	Zip 22032	
DATE 10/13/98		SIGNATURE	a Cie	

Full Name of Additional Joint Inventor GARRETT, Richard		Citizenship United States	
Residence Address - Street 9852 Fairfax Square #225		Post Office Address Street QED Innovations, 4013 Williamsburg Court	
City Fairfax		City Fairfax	
State or Country Zip Virginia 22031		State or Country Zip Virginia 22032	
DATE 10/13/98		SIGNATURE Rich I Hawall	

See following pages for additional joint inventors.

_		_	ATTORNEY DOCKET NO .:	NIST-0006-1
DECLARATION F	PATENT APPLICATION AND APPOINTMY		OF ATTORNEY	
	Page 2			

	Citizenship United States	
	Post Office Address Street QED Innovations, 4013 Williamsburg Court	
	City Fairfax	
Zip 20692	State or Country Zip Virginia 22032	
	signature freed for the	

Full Name of Additional Joint Inventor KIPP, Neill		Citizenship United States	
Residence Address - Street 319 New Kent Road		Post Office Address Street QED Innovations, 4013 Williamsburg Court	
City Blacksburg		City Fairfax	
State or Country Virginia	<i>Zip</i> 24060	State or Country Virginia	Zip 22032
DATE 10/13/98		SIGNATURE	

# 		Citizenship United States	· ·	
Residence Address - Street 48278 Keel Drive		Post Office Address Street QED Innovations, 4013 Williamsburg Court		
City Lexington Park		City Fairfax		
State or Country Maryland	<i>Zip</i> 20653	State or Country Zip Virginia 22032		
DATE 10/13/98		SIGNADURE		

Full Name of Additional Joint Inv	entor	Citizenship	
Residence Address - Street	to the state of th	Post Office Address Street	
City		City	
State or Country	Zip	State or Country	Zip
DATE		SIGNATURE	

See following pages for additional joint inventors.

Contract Contract State Constitution

DATE

ATTORNEY DOCKST NO.: NIST-0006-1
DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY

Page Z Pull Name of Additional John Deventor CRizensky United States GROAT, Robert Residence Address - Street Post Office Address Street QED Innovations, 4013 Williamsburg Court 45862 Aberdeen Lane Cáz City Valley Lee Fairfax State or Country Zip 22032 State or Country 20692 Maryland Virginia 10/13/98 Pull Name of Additional Joint Inventor Citizenship United States KIPP, Neill Post Office Address Street Residence Address - Street QED Innovations, 4013 Williamsburg Court 319 New Kent Road City (2) Fairfax Blacksburg Zi≠ 22032 Stees or Country State or Country ZQ-24060 Virginia Virginia SICKLYTURE 10/13/98 Citizenskip Pull Name of Additional Joint Inventor United States RAPP, Perry Russell Post Office Address Street Residence Address - Street OED Innovations, 4013 Williamsburg Court 48278 Keel Drive (V) Ciry Fairfax Leidington Park 25y 23033 State or Country *Z∳* 20653 State or Country Virginia Maryland DATE 10/13/98 Chiemakip Full Name of Additional Total Inventor Post Office Address Street Residence Asidross - Street (20) State or Country Ζip State or Country Zb

Segnatura

See following pages for outditional John inventors.

10-15-1998 3:10PM

FROM

ATTORNEY DOCKEY No.: NIST-0006-1 DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY

Full Name of Additional John Inventor GROAT, Robert	Cutenste United States
Residence Address - Street 45862 Aberdean Lame	Pon Office Address Street QED Innovations, 4013 Williamsburg Court
City Valley Lee	CDy Fairfax
State or Country Zip Maryland 20692	Size or Country Zip Virginia 22032
D475 10/13/98	signiff fred free to for
Pail Name of Additional Jobs Inventor KIPP, Neill	Chimphip United States
Residence Address – Street 319 New Kent Road	Fost Office Address Street QED Innovations, 4013 Williamsburg Court
City Blacksburg	City Fairfax
State or Country 2/29 Virginia 24060	State or Country Virginia 22032
Days	SICHAFURE
10/13/98	X / M/M/M
10/13/98	1x / My My
Pull Name of Additional John Inventor RAPP, Purry Russell	Chicanahip / United States
Pall Name of Additional John Inventor	Chitesmakip
Pull Name of Additional John Inventor RAPP, Parry Russell Residence Address - Street	Chicamahip United States Pop Office Address Street
Pull Name of Additional John Inventor RAPP, Parry Russell Residence Address - Street 48278 Kool Drive City	Chinamity United States Pon Office Address Street QED Innovations, 4013 Williamsburg Court City
Pull Name of Additional John Inventor RAPP, Parry Russell Residence Address - Street 48278 Keel Drive City Lexington Park State or Country 210	Chinamakip United States Pon Office Address Street QED Innovations, 4013 Whitemsburg Court City Fairfax State or Country Zip
Pull Name of Additional John Inventor RAPP, Parry Russell Residence Address - Street 48278 Keel Drive City Locington Park State or Country Marryland 20653 Data 10/13/98	Chicasahip United States Pon Office Address Street QED Innovations, 4013 Whitemsburg Court City Fairfax State or Country Virginia 22032
Pull Name of Additional John Inventor RAPP, Perry Russell Resistance Address - Street 48278 Keel Drive City Lexington Park State or Country Marryland Date Date	Chicasahip United States Pon Office Address Street QED Innovations, 4013 Whitemsburg Court City Fairfax State or Country Virginia 22032
Pull Name of Additional Joint Inventor RAPP, Parry Russell Residence Address - Street 48278 Keel Drive Chy Lexington Park State or Country Marryland Digns 10/13/98	Chiesnahip United States Pon Office Address Street QED Innovations, 4013 Williamsburg Court City Fairfax State or Country Virginia 22032 Statestures
Pull Name of Additional John Inventor RAPP, Perry Russell Restitutes Address - Street 48278 Keel Drive City Lexington Park State or Country Marryland Data 10/13/98 Pull Name of Additional John Inventor	Chienahip United States Pon Office Address Street QED Innovations, 4013 Williamsburg Court City Fairfax State or Country Virginia 22032 Statestypes
Pull Name of Additional John Inventor RAPP, Parry Russell Residence Address - Street 48278 Keel Drive City Lexington Park State or Country Marryland 20653 Data 10/13/98 Pull Name of Additional John Inventor Residence Address - Street	Chiesnahip United States Pop Office Address Street QED Innovations, 4013 Williamsburg Court City Fairfax State or Country Virginia 22032 Statearues Cuttenship Post Office Address Street

See following pages for additional joins inventors.

And the second s	Samu Besiden
	ker# QEDI-0001-1
The second secon	emer
Filed or Issued Getaber 15, 1908 And	, tot
OMBULBASED NI MERICANALISME ENGINE	ing a militar markitar (in particular primary pour a group de

	The second secon			
l lin North	ORIFOTABASED NI MERICANALISMS ENGINE			;
	VERBIED SEATEMENT (DECLARATION) BY A SMAL CLAIMING SMALL ENTITY STATUS UNDER 37 C.F.I	LL BI	SINESS C	ONCERN D. 1.770
Lhefelas at ad	anorthan Lago	. 43	1.9(F) A.V	D 1.27(C)
	and quart appears that how assessment identified below an opicial of the small histories concern empowered to act on behalf of	ithe con	cen: identi	fied below:
	iceni. QED innovarions			
	3 Williamshurg Court, Farfax, VA 22032			
Code in that of this staten on a full-time other when e	are that the above identified Stall business concern qualifies as a small school in 37 CFR 1.966, for European of Buying reduced fees under the number of employees of the concern, including those of its affiliat- ient. (1) the number of employees is the average over the previous fies in planting or temporary basis during each of the pay periods of the ti- ither directly or indirectly, one concern controls of has the power to co- wer to control horp.	<i>section</i> les, doe s cal year issed yes	#Iran mil not excee of the con- or and (2)	the of Title 35. United States d 500 persons. For purposes cam of the persons employed concerns are affiliates of each
with regard to (20)	are that rights unget confront of law have been conveyed to and remain of the trainer described to. The specification filed usrewish, with the file as lived above. The patent application identified above. The PCT luminational patent application identified above. The patent manises of entitied above.	with th	e small hus	mess concern identified above
t the rights t	ield by the above identified small business concern are not exclusive.	, each ii	idividual. e	oneem or organization having
ights to the i	nvention must file separate ventied statements averring to their status a person, other than the inventor, who would not quality is an indepente tention, or by any concern who would not quality as a small busine under 3° (FRT press Fach person or organization having any rights in	is small dent inv iss conc	entitiës, au entor unde em ander .	d no rights to the invention are if 3° CFR 1.9tc; if that persor 3° CFR 1.9td;, or a nonprofit
rodesineger (S)	No such person content or organization. Each such Person content or organization as listed below:			
rodesineger (S)	No such person contem or organization. Each such Person content or organization as listed below:		en e	The anidous
ຈຊະແນ່ <i>ກ</i> ລັກດາ ວັກໄ	No such person contem or organization. Each such Person contem or organization as listed helow:		en e	☐ halividual
rodesineger (S)	No such person (collegn) or organization. Each such Person (collegn) or organization as listed below:	ده کننده		☐ Enhvidual ☐ISmall Business Concern ☐ Nonprofit Organization
एवर्गक्ष्यंग्रह्मक स्रि	No such person contem or organization. Each such Person content or organization as listed below.		:	ElSpuil Business Concern

Lackmowledge the duty to file, in this application or patent, norification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue (see or any maintenance fee due after the date on which status as a small entity is no longer appropriate (3° CFR 1.2866).

I hereby decline that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the belief are believed to be true; and further that these statements were made with the knowledge that willful false statements made in impresentment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may icopardize the validity of the application, any patent issuing thereon, or any patent to which the vertical statement is directed.

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10/15/98
Chia Chen Chang, President	60/
4013 Williamsburg Court, Fairfax, VA 22032	

PAGE 01

P. 002



10-15-1998 3:11PM FROM

My commission expires:

ASSIGNMENT

WHEREAS, QED Innovations, whose post office address is 4013 Williamsburg Court, Fairfux Virginia, (hersinafter referred to an ASSIGNEE), is desirous of acquiring the entire right, this and interest in and to the same in the United States and throughout the world;

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, we Assigned by these presents do sell, assign and transfer until said Assigned, the entire right, title and interest in and to said invention and application throughout the United States of America, including any and all United States Letters Patent granted on any division, continuation, continuation in part and reissue of said application; and the entire right, title and interest in and to said invention throughout the world, including the right to apply for patents and inventor certificates in respect thereof and to claim priority pursuant to rights accorded Assignor under the terms of the Paris International Convention and all other evaluable international conventions and treaties; and the entire right, title and interest in and to any and all patents, patents of addition, utility models, patents of importation, revalidation patents and inventor certificates which may be granted throughout the world in respect of said invention.

ALSO, ASSIGNOR hereby agrees to execute any documents that legally may be required in connection with the filling, prosecution, and maintenance of said application or any other patent application(s) or inventor certificate(s) in the United States and in foreign countries for said invention, including additional documents that may be required to affirm the rights of ASSIGNEE in and to said invention, all without further consideration. ASSIGNOR also agrees, without further consideration and at ASSIGNEE's expense, to identify and communicate to ASSIGNOE at ASSIGNEE's request documents and information concerning the invention that are within ASSIGNOE's possession or control, and to provide further assurances and testimony on behalf of ASSIGNOE that lawfully may be required of ASSIGNOE in respect of the prosecution, maintenance and defense of any patent application or patent encompassed within the terms of this instrument. ASSIGNOE's obligations under this instrument shall extend to ASSIGNOE's heirs, executors, administrators and other legal representatives.

ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent reflected to above to ASSIGNER of the entire right, title and interest in and to the same, for ASSIGNER'S sole use and behalf, and for the use and behalf of ASSIGNER'S legal representatives and successors, to the full end of the term for which such Letters Patent may be granted, as fully and entirely as the same would have been held by ASSIGNOR had this assignment and sale not bear made.

made.	
Inventor: Nell Kipp Address: 319 New Kent Road	X Mill Kgg
Blacksburg, Virginia 24060	Signature 10/15/99 8 SSN:: 260-06-0637
State of	Notarization preferred but not required
City/County of	
Before mu personally appeared and said	
action medges this instrument to be his (her) free act and deed this	day a
	Notes: Public

FROM

ASSIGNMENT

WILERBAS, Perry Russell Rapp, whose post office addresses appear below (hereinafter referred to as Assignor), has invented certain new and useful improvements in an OBJECT-BASED NUMERIC-ANALYSIS ENGINE (hereinafter referred to as THE INVENTION) for which an application for United States Letters Patent was filed October 15, 1998, Serial Number:

WHEREAS, QED Innovations, whose post office address is 4013 Williamsburg Court, Fairfax Virginia, (hereinafter referred to as ASSIGNRF), is desirous of acquiring the entire right, thie and interest in and to the same in the United States and throughout the world;

NOW. THEREFORE, for good and valuable consideration, receipt of which is hereby anknowledged, we, ASSIGNOR, by these presents do sell, assign and transfer until said ASSIGNEE, the entire right, title and interest in and to said invention and application throughout the United States of America, including any and all United States Letters Patent granted on any division, contimuation, continuation in part and reissue of said application; and the entire right, title and interest in and to said invention fittoughout the world, including the right to apply for patents and inventor certificates in respect thereof and to claim priority pursuant to rights accorded ASSIGNOR under the terms of the Paris International Convention and all other available international conventions and treaties; and the entire right, title and interest in and to any and all patents, patents of addition, utility models, patents of importation, revalidation patents and inventor certificates which may be granted throughout the world in respect of said invention.

ALSO, ASSESSOR hereby agrees to execute any documents that legally may be required in connection with the filing, prosecution and maintenance of said application or any other patent application(s) or inventor certificate(s) in the United States and in foreign countries for said invention, including additional documents that may be required to affirm the rights of ASSIGNEE in and to said invention, all without further consideration. Assignor also agrees, without further consideration and at ASSIGNEE'S expense, to identify and communicate to ASSIGNEE'S request documents and information concerning the invention that are within ASSIONON'S possession or control, and to provide further assurances and testimony on behalf of ASSIGNEE that lawfully may be required of ASSIGNOR in respect of the prosecution, maintenance and defense of any patent application or patent encompassed within the terms of this instrument. ASSIGNOR'S obligations under this instrument shall extend to Assicnor's heirs, executors, administrators and other legal representatives.

Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks to Issue any and all United States Letters Patent referred to above to ASSIGNEE of the entire right, title and interest in and to the same, for ASSIGNEE'S sole use and behalf, and for the use and behalf of ASSIGNEE'S legal representatives and successors, to the full end of the term for which such Letters Patent may be granted, as fully and entirely as the same would have been held by ASSIGNOR had this assignment and sale not been made.

inventor: Perry Russell Rapp Address: 48278 Keel Drive Lexington Park, Maryland 20663	Signature Date: 0 15 998 SSN: Notarization preferred but not required
State of	
Before me personally appeared and said	eed this , und
My commission expires:	Notary Public

WHEREAS, Evan G. Burfield, whose post office act to as ASSIGNOR), has invented certain new and useful improvement ANALYSIS ENGINE (hereinafter referred to as THE INVENTION) Letters Patent was filed October 15, 1998, Serial Number:	rements in an OBJECT-BASED NUMERIC- for which an application for United States
WHEREAS, QED Innovations, whose post office Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desiinterest in and to the same in the United States and throughout to	rous of acquiring the entire right title and
NOW, THEREFORE, for good and valuable con acknowledged, we, ASSIGNOR, by these presents do sell, assigntire right, title and interest in and to said invention and application, including any and all United States Letters Paten continuation-in-part and reissue of said application; and the en invention throughout the world, including the right to apply for thereof and to claim priority pursuant to rights accorded A International Convention and all other available international right, title and interest in and to any and all patents, patent importation, revalidation patents and inventor certificates which respect of said invention.	gn and transfer until said ASSIGNEE, the plication throughout the United States of t granted on any division, continuation, tire right, title and interest in and to said patents and inventor certificates in respect ASSIGNOR under the terms of the Paris conventions and treaties; and the entire is of addition, utility models, patents of
ALSO, ASSIGNOR hereby agrees to execute any docconnection with the filing, prosecution and maintenance of application(s) or inventor certificate(s) in the United States and including additional documents that may be required to affirm invention, all without further consideration. ASSIGNOR also agray ASSIGNEE's expense, to identify and communicate to ASSIGNE information concerning the invention that are within ASSIGNOR further assurances and testimony on behalf of ASSIGNEE that larespect of the prosecution, maintenance and defense of any p within the terms of this instrument. ASSIGNOR'S obligations ASSIGNOR'S heirs, executors, administrators and other legal representations.	f said application or any other patent d in foreign countries for said invention, in the rights of ASSIGNEE in and to said rees, without further consideration and at EE at ASSIGNEE's request documents and R'S possession or control, and to provide awfully may be required of ASSIGNOR in atent application or patent encompassed is under this instrument shall extend to
ASSIGNOR hereby authorizes and requests the Commiss any and all United States Letters Patent referred to above to ASS in and to the same, for ASSIGNEE'S sole use and behalf; and for epresentatives and successors, to the full end of the term for whifully and entirely as the same would have been held by ASSIGNOR	IGNEE of the entire right, title and interest rether the use and behalf of ASSIGNEE'S legal ch such Letters Patent may be granted, as
nade.	$a d Q I \bigcirc$
nventor: Evan G. Burfield	2 DRIQ
Address: 9852 Fairfax Square #225	Signature
Fairfax, Virginia 22031	Date: 10 15 98 SSN.: 229-23-9509
	Notarization preferred but not required
State of	
City/County of	
Before me personally appeared and said	·
acknowledges this instrument to be his (her) free act and deed thi	s day of
·	
	Notary Public
Ay commission expires:	•
· — — — — — — — — — — — — — — — — — — —	

My commission expires:

ASSIGNMENT
WHEREAS, Chia Chen Chang, whose post office addresses appear below (hereinafter referred to as ASSIGNOR), has invented certain new and useful improvements in an OBJECT-BASED NUMERICANALYSIS ENGINE (hereinafter referred to as THE INVENTION) for which an application for United States Letters Patent was filed October 15, 1998, Serial Number:;
WHEREAS, QED Innovations, whose post office address is 4013 Williamsburg Cour Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desirous of acquiring the entire right, title an interest in and to the same in the United States and throughout the world;
NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, we, ASSIGNOR, by these presents do sell, assign and transfer until said ASSIGNEE, the entire right, title and interest in and to said invention and application throughout the United States of America, including any and all United States Letters Patent granted on any division, continuation continuation-in-part and reissue of said application; and the entire right, title and interest in and to said invention throughout the world, including the right to apply for patents and inventor certificates in respect thereof and to claim priority pursuant to rights accorded ASSIGNOR under the terms of the Pari International Convention and all other available international conventions and treaties; and the entire right, title and interest in and to any and all patents, patents of addition, utility models, patents of importation, revalidation patents and inventor certificates which may be granted throughout the world in respect of said invention.
ALSO, ASSIGNOR hereby agrees to execute any documents that legally may be required in connection with the filing, prosecution and maintenance of said application or any other patent application(s) or inventor certificate(s) in the United States and in foreign countries for said invention including additional documents that may be required to affirm the rights of ASSIGNEE in and to said invention, all without further consideration. ASSIGNOR also agrees, without further consideration and at ASSIGNEE'S expense, to identify and communicate to ASSIGNEE at ASSIGNEE's request documents and information concerning the invention that are within ASSIGNOR's possession or control, and to provide further assurances and testimony on behalf of ASSIGNEE that lawfully may be required of ASSIGNOR in respect of the prosecution, maintenance and defense of any patent application or patent encompassed within the terms of this instrument. ASSIGNOR's obligations under this instrument shall extend to ASSIGNOR's heirs, executors, administrators and other legal representatives.
ASSIGNOR hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent referred to above to ASSIGNEE of the entire right, title and interest in and to the same, for ASSIGNEE'S sole use and behalf; and for the use and behalf of ASSIGNEE'S legal representatives and successors, to the full end of the term for which such Letters Patent may be granted, as fully and entirely as the same would have been held by ASSIGNOR had this assignment and sale not been made.
Inventor: Chia Chen Chang Address: 804 Lawton Street McLean, Virginia 22101 Signature Date: 10/15/98 SSN.: 578-64-3304 Notarization preferred but not required
State of,
City/County of,
Pafara wa narranally appared and said
Before me personally appeared and said, and acknowledges this instrument to be his (her) free act and deed this day of
ady by

Notary Public

WHEREAS, Matthew Eichler, whose post office addras ASSIGNOR), has invented certain new and useful improve ANALYSIS ENGINE (hereinafter referred to as THE INVENTION) Letters Patent was filed October 15, 1998, Serial Number:	ments in an OBJECT-BASED NUMERIC-
WHEREAS, QED Innovations, whose post office Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desir interest in and to the same in the United States and throughout the	ous of acquiring the entire right, title and
NOW, THEREFORE, for good and valuable consacknowledged, we, ASSIGNOR, by these presents do sell, assigntire right, title and interest in and to said invention and appropriate appropriate including any and all United States Letters Patent continuation-in-part and reissue of said application; and the entinvention throughout the world, including the right to apply for thereof and to claim priority pursuant to rights accorded A International Convention and all other available international right, title and interest in and to any and all patents, patents importation, revalidation patents and inventor certificates which respect of said invention.	gn and transfer until said ASSIGNEE, the olication throughout the United States of granted on any division, continuation, tire right, title and interest in and to said patents and inventor certificates in respect assignment under the terms of the Paris conventions and treaties; and the entire so of addition, utility models, patents of
ALSO, ASSIGNOR hereby agrees to execute any doct connection with the filing, prosecution and maintenance of application(s) or inventor certificate(s) in the United States and including additional documents that may be required to affirm invention, all without further consideration. ASSIGNOR also agr ASSIGNEE's expense, to identify and communicate to ASSIGNOR information concerning the invention that are within ASSIGNOR further assurances and testimony on behalf of ASSIGNEE that la respect of the prosecution, maintenance and defense of any pawithin the terms of this instrument. ASSIGNOR'S obligations ASSIGNOR'S heirs, executors, administrators and other legal representations.	said application or any other patent in foreign countries for said invention, the rights of ASSIGNEE in and to said ees, without further consideration and at at ASSIGNEE's request documents and so possession or control, and to provide wfully may be required of ASSIGNOR in atent application or patent encompassed under this instrument shall extend to
ASSIGNOR hereby authorizes and requests the Commissi any and all United States Letters Patent referred to above to ASSI in and to the same, for ASSIGNEE's sole use and behalf; and for representatives and successors, to the full end of the term for which fully and entirely as the same would have been held by ASSIGNO made.	GNEE of the entire right, title and interest the use and behalf of ASSIGNEE'S legal ch such Letters Patent may be granted, as
Inventor: Matthew Eichler	Masselle
Address: 2629 Washington Blvd.,	Signature
Arlington, Virginia 22201	Date: 10/15/98
	SSN.: <u>/09-50-5191</u>
State of	Notarization preferred but not required
State of, City/County of,	
Before me personally appeared and said	, and
acknowledges this instrument to be his (her) free act and deed this	day of
	Notary Public
My commission expires:	

WHEREAS, Mark Drissel, whose post office address ASSIGNOR), has invented certain new and useful improved ANALYSIS ENGINE (hereinafter referred to as THE INVENTION) Letters Patent was filed October 15, 1998, Serial Number:	ments in an OBJECT-BASED NUMERIC for which an application for United State
WHEREAS, QED Innovations, whose post office Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desinterest in and to the same in the United States and throughout to	rous of acquiring the entire right, title and
NOW, THEREFORE, for good and valuable con acknowledged, we, ASSIGNOR, by these presents do sell, assentire right, title and interest in and to said invention and ap America, including any and all United States Letters Paten continuation-in-part and reissue of said application; and the er invention throughout the world, including the right to apply for thereof and to claim priority pursuant to rights accorded Anternational Convention and all other available international right, title and interest in and to any and all patents, patent importation, revalidation patents and inventor certificates which respect of said invention.	ign and transfer until said ASSIGNEE, the plication throughout the United States of t granted on any division, continuation after right, title and interest in and to said patents and inventor certificates in respect ASSIGNOR under the terms of the Paris conventions and treaties; and the entire is of addition, utility models, patents of
ALSO, ASSIGNOR hereby agrees to execute any docconnection with the filing, prosecution and maintenance of application(s) or inventor certificate(s) in the United States an including additional documents that may be required to affirm invention, all without further consideration. ASSIGNOR also ag ASSIGNEE's expense, to identify and communicate to ASSIGNE information concerning the invention that are within ASSIGNOE that is respect of the prosecution, maintenance and defense of any p within the terms of this instrument. ASSIGNOR'S obligation ASSIGNOR'S heirs, executors, administrators and other legal representations.	f said application or any other patent d in foreign countries for said invention, in the rights of ASSIGNEE in and to said rees, without further consideration and at EE at ASSIGNEE's request documents and R's possession or control, and to provide awfully may be required of ASSIGNOR in patent application or patent encompassed is under this instrument shall extend to
ASSIGNOR hereby authorizes and requests the Commiss any and all United States Letters Patent referred to above to ASS in and to the same, for ASSIGNEE'S sole use and behalf; and fo representatives and successors, to the full end of the term for whifully and entirely as the same would have been held by ASSIGN made.	IGNEE of the entire right, title and interest r the use and behalf of ASSIGNEE'S legal ich such Letters Patent may be granted, as OR had this assignment and sale not been
Inventor: Mark Drissel Address: 6314 Kiteline Court Columbia, Maryland 21044	Muk Dussel Signature Date: 10/15/98 SSN:
State of,	Notarization preferred but not required
City/County of,	
Before me personally appeared and saidacknowledges this instrument to be his (her) free act and deed thi	, and is day of
My commission avairas:	Notary Public
My commission expires:	

My commission expires:

ASSIGNMENT	
WHEREAS, Richard Garrett, whose post office addras ASSIGNOR), has invented certain new and useful improve ANALYSIS ENGINE (hereinafter referred to as THE INVENTION) Letters Patent was filed October 15, 1998, Serial Number:	ements in an OBJECT-BASED NUMERIO
WHEREAS, QED Innovations, whose post office Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desi interest in and to the same in the United States and throughout the same in the United States and the same in	rous of acquiring the entire right title and
NOW, THEREFORE, for good and valuable con acknowledged, we, ASSIGNOR, by these presents do sell, assigntive right, title and interest in and to said invention and application, including any and all United States Letters Patent continuation-in-part and reissue of said application; and the en invention throughout the world, including the right to apply for thereof and to claim priority pursuant to rights accorded Anternational Convention and all other available international right, title and interest in and to any and all patents, patent importation, revalidation patents and inventor certificates which respect of said invention.	gn and transfer until said ASSIGNEE, the plication throughout the United States of the granted on any division, continuation tire right, title and interest in and to said patents and inventor certificates in respect ASSIGNOR under the terms of the Paris conventions and treaties; and the entire sof addition, utility models, patents of
ALSO, ASSIGNOR hereby agrees to execute any doctonnection with the filing, prosecution and maintenance of application(s) or inventor certificate(s) in the United States and including additional documents that may be required to affirm invention, all without further consideration. ASSIGNOR also agrays assignee's expense, to identify and communicate to ASSIGNE information concerning the invention that are within ASSIGNOR also agrays and testimony on behalf of ASSIGNEE that latespect of the prosecution, maintenance and defense of any position that the terms of this instrument. ASSIGNOR'S obligations ASSIGNOR'S heirs, executors, administrators and other legal representations.	f said application or any other patent d in foreign countries for said invention, in the rights of ASSIGNEE in and to said rees, without further consideration and at E at ASSIGNEE'S request documents and R'S possession or control, and to provide awfully may be required of ASSIGNOR in atent application or patent encompassed is under this instrument shall extend to
ASSIGNOR hereby authorizes and requests the Commissions and all United States Letters Patent referred to above to ASSIGNED and to the same, for ASSIGNEE'S sole use and behalf; and for epresentatives and successors, to the full end of the term for which ally and entirely as the same would have been held by ASSIGNO made.	GNEE of the entire right, title and interest rether use and behalf of ASSIGNEE'S legal ch such Letters Patent may be granted, as
nventor: Richard Garrett Address: 9852 Fairfax Square #225 Fairfax, Virginia 22031	Signature Date: OCT. 15, 1998 SSN.: 330-50-9370 Notarization preferred but not required
City/County of	
efore me personally appeared and said	
efore me personally appeared and said cknowledges this instrument to be his (her) free act and deed thi	s, and day of
	aay of

Notary Public

WHEREAS, Robert Groat, whose post office addresss ASSIGNOR), has invented certain new and useful improven ANALYSIS ENGINE (hereinafter referred to as THE INVENTION) Letters Patent was filed October 15, 1998, Serial Number:	nents in an OBJECT-BASED NUMERIC-
WHEREAS, QED Innovations, whose post office Fairfax Virginia, (hereinafter referred to as ASSIGNEE), is desir interest in and to the same in the United States and throughout the	ous of acquiring the entire right, title and
NOW, THEREFORE, for good and valuable consacknowledged, we, ASSIGNOR, by these presents do sell, assign entire right, title and interest in and to said invention and approximation, including any and all United States Letters Patent continuation-in-part and reissue of said application; and the entinvention throughout the world, including the right to apply for patents and to claim priority pursuant to rights accorded A International Convention and all other available international right, title and interest in and to any and all patents, patents importation, revalidation patents and inventor certificates which respect of said invention.	gn and transfer until said ASSIGNEE, the elication throughout the United States of granted on any division, continuation, tire right, title and interest in and to said patents and inventor certificates in respect assignor under the terms of the Paris conventions and treaties; and the entire of addition, utility models, patents of
ALSO, ASSIGNOR hereby agrees to execute any docuconnection with the filing, prosecution and maintenance of application(s) or inventor certificate(s) in the United States and including additional documents that may be required to affirm invention, all without further consideration. ASSIGNOR also agraesing ASSIGNEE's expense, to identify and communicate to ASSIGNOR information concerning the invention that are within ASSIGNOR further assurances and testimony on behalf of ASSIGNEE that larespect of the prosecution, maintenance and defense of any pawithin the terms of this instrument. ASSIGNOR'S obligations ASSIGNOR'S heirs, executors, administrators and other legal representations.	said application or any other patent in foreign countries for said invention, the rights of ASSIGNEE in and to said ees, without further consideration and at at ASSIGNEE's request documents and so possession or control, and to provide wfully may be required of ASSIGNOR in atent application or patent encompassed under this instrument shall extend to
ASSIGNOR hereby authorizes and requests the Commissi any and all United States Letters Patent referred to above to ASSI in and to the same, for ASSIGNEE'S sole use and behalf; and for representatives and successors, to the full end of the term for which fully and entirely as the same would have been held by ASSIGNO made.	GNEE of the entire right, title and interest the use and behalf of ASSIGNEE'S legal ch such Letters Patent may be granted, as or had this assignment and sale not been
Inventor: Robert Groat	All flat
Address: 45862 Aberdeen Lane	Signature
Valley Lee, Maryland 20692	Date: 6/15/18 SSN.: 2,5808492
State of C	Notarization preferred but not required
State of, City/County of,	
Before me personally appeared and said	, and
acknowledges this instrument to be his (her) free act and deed this	
•	
	Notary Public
My commission expires:	